REMARKS

In view of the foregoing amendment and the following remarks, Applicants respectfully request reexamination of the present application. Claims 1, 2, 8, 31, 44, 48, 61, 64 and 93 have been amended, no claims have been cancelled and new Claims 121 and 122 have been added.

Claims 1-30 and new Claims 121-122

The Examiner has rejected Claims 1-30 under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. The Examiner's states that the phrase "in a dispersed state" is unclear as to what substance the particles would be dispersed in.

Applicants have amended independent Claim 1 to clarify that the reacted precursor particles are dispersed in a *gas*. Support for this amendment can be found throughout the specification, including at page 7, lines 12-22. Removal of this rejection is therefore requested.

The Examiner has rejected Claims 1-5 and 7-22 under 35 USC § 102(b) as being anticipated by U.S. Patent No. 5,985,356 by Schultz et al. The Examiner has also rejected Claims 6 and 23-30 under 35 USC § 103(a) as being unpatentable over Schultz et al. Applicants respectfully traverse these rejections.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). In addition, there must be a teaching or suggestion to make the claimed

combination and a reasonable expectation of success that are found in the prior art, and not in the applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). In determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other modification. *In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

Schultz et al. is directed to a method and apparatus for the preparation and use of a substrate having an array of diverse materials in predefined regions on the substrate. The substrate is prepared by first delivering components (i.e., reactants) of materials to predefined regions on the substrate and thereafter simultaneously reacting the components to form at least two materials. See, e.g., the Abstract. Delivering the different reactants to pre-defined regions on the substrate in a step-wise fashion forms an array of materials having different chemical compositions. Multiple deposition steps and masking techniques are used to vary the concentration of a selected reactant that is deposited on a given region of the substrate. A small, precisely metered amount of each reactant component is delivered into each reaction region. (Col. 10, lines 37-39 and Col. 15, lines 8-17). By varying the amount of the individual reactants deposited from one region to another region, different materials can be formed on the substrate. *The reactants of Schultz et al. are not reacted until they are disposed on the reaction region of the substrate.*

With respect to Schultz et al., the Examiner states that:

> As to the "dispersed" limitation of [applicant's] claim 1, the materials made in the Schultz process would be dispersed within some larger substance, i.e., this limitation as presently claimed does not define any specific distinction between the prior art and the claimed invention.

It appears that the Examiner is taking the position that since the reactants of Schultz et al. can be placed in a reaction region with another substance, such reactants are "dispersed" within that substance, or that the reacted materials are "dispersed" within the substrate.

As is noted above, independent Claim 1 has now been amended to state that the reacted precursor particles of the present invention are dispersed in a *gas* prior to being collected. It is submitted that Schultz et al. do not disclose or suggest the step of continuously reacting a precursor composition to form reacted precursor particles that are dispersed in a gas, and thereafter collecting the reacted precursor particles. Therefore, removal of this rejection with respect to independent Claim 1 and dependent Claims 2-30 is requested.

In addition, Claim 2 has been amended to recite that the precursor composition is varied on a real time basis during the providing step recited in Claim 1. As is discussed above, Schultz et al. does not disclose or suggest varying the precursor composition while the precursor composition is being continuously provided to a reactor. Schultz et al. delivers the reactants to a substrate in a step-wise fashion. Claim 8 has been amended to recite that the providing step includes generating precursor droplets comprising the precursor composition. Schultz et al. does not disclose or suggest generating precursor droplets of the precursor solution.

Claims 31-43

The Examiner has rejected Claims 31, 40 and 41 under 35 USC § 102(e) as being anticipated by U.S. Patent No. 6,620,351 by Gupta et al. Claim 43 has been rejected under 35 USC § 103(a) as being unpatentable over Gupta et al. Claims 31, 32 and 34-42 have been rejected under 35 USC § 102(b) as being anticipated by Schultz et al. Finally, Claims 33 and 43 have been rejected under 35 USC § 103(a) as being unpatentable over Schultz et al.

Gupta et al. disclose a process for producing nanoparticles or microparticles using supercritical fluids. The process disclosed by Gupta et al. involves filling a vessel with an antisolvent fluid that is near or above its critical pressure, and near or above its critical temperature. (Col. 9, lines 53-57). A horn surface is vibrated at a desired amplitude. (Col.

9, lines 61-63). Then a dispersion containing one or more desired substances in a solvent is sprayed so that it contacts the vibrating horn surface. (Col. 10, lines 3-12). As soon as the dispersion contacts the vibrating surface, it is atomized into droplets that form particles due to the rapid removal of the solvent from the droplets by the supercritical antisolvent. (Col. 10, lines 11-14). Gupta et al. disclose that the size of the particles and agglomeration of the particles can be controlled by changing the vibration intensity of the vibrating horn surface. (Col. 5, lines 60-65 and Col. 6, lines 10-15). One advantage of the process disclosed by Gupta et al. is the ability to generate particles with narrow size distribution. (Col. 6, lines 31-34).

The Examiner asserts that Gupta et al. anticipates Claims 31, 40 and 41 because Gupta et al. discloses making particles of a desired substance (e.g., medicaments) by applying a dispersion including at least two or more materials which react on a surface to form the desired substance. The Examiner further states that Gupta et al. disclose that a reactor condition (e.g., vibration of the surface) can be varied to produce a differential condition in the final products, such as a difference in size or agglomeration of the particles and this differential condition can be measured. Thus, the Examiner states that all aspects of the claimed invention are held to be fully disclosed by Gupta et al.

It is noteworthy that Gupta et al. does not disclose the reaction of precursors to convert the precursors into a desired compound. The method of Gupta et al. merely removes solvent from the desired medicament to form a dry medicament particle. As is disclosed at Col. 10, lines 39-41 of Gupta et al., *"Test results to prove that no structural or biological change in the precipitated compounds took place as a result of the precipitation process have also been listed."*

Applicants have amended independent Claim 31 to recite that at least one of the first and second precursors is a precursor to a metal or metal compound. Inasmuch as Gupta et al. do not disclose or suggest the formation of metal or metal compounds from a precursor, removal of this rejection is requested. Further, it is submitted that the teachings of Gupta et al. are not sufficient for one of ordinary skill in the relevant art to substitute a metal or metal compound for the medicament of Gupta et al.

Schultz et al. does not disclose or suggest continuously reacting a precursor composition and varying a reactor condition in a controlled manner and on a real time basis to form different reactive precursor particles. Therefore, removal of this rejection with respect to Schultz et al. is requested.

Claims 44-47

Claims 44 and 47 have been rejected under 35 USC 102(e) as being anticipated by U.S. Patent No. 6,620,351 by Gupta et al. Claims 44 and 46 have been rejected under 35 USC § 102(b) as being anticipated by Schultz et al. Claims 44 and 45 have been rejected under 35 USC § 103(a) as being unpatentable over Gupta et al. Finally, Claims 45 and 47 have been rejected under 35 USC § 103(a) as being unpatentable over Schultz et al.

Independent Claim 44 has been amended to recite that the dispersed precursor droplets are reacted in a heated reactor while dispersed in the carrier gas to form reacted precursor particles. As is discussed above, Gupta et al. does not disclose or suggest using a heated reactor to form reacted precursor particles. Therefore, removal of this rejection is requested.

Further, Schultz et al. does not disclose or suggest reacting dispersed precursor droplets while the droplets are dispersed in a gas phase. Therefore, removal of this rejection is also requested.

Claims 48-60

Claims 48-60 have been rejected under 35 USC § 103(a) as being unpatentable over Schultz et al.

Independent Claim 48 has been amended to recite that the precursor is dispersed into precursor droplets and that the precursor droplets are reacted while they are dispersed in a carrier gas. Schultz et al. does not disclose or suggest reacting the droplets of a precursor while the droplets are dispersed in a carrier gas. Therefore, removal of this rejection is requested.

Claims 61-63

Claims 61-63 have been rejected under 35 USC § 103(a) as being unpatentable over Schultz et al.

Independent Claim 61 has been amended to recite that the precursors are reacted

while the precursor droplets are dispersed in a carrier gas. As is discussed above, Schultz et al. does not disclose or suggest reacting precursor droplets while such droplets are dispersed in a carrier gas. Therefore, removal of this rejection is also requested.

Claims 64-92

Claims 64-67 and 69-84 have been rejected under 35 USC § 102(b) as being anticipated by Schultz et al. Claims 68 and 85-92 have been rejected under 35 USC § 103(a) as being unpatentable over Schultz et al.

Independent Claim 64 has been amended to recite that the precursor composition comprises at least first and second precursor components and that the precursor composition is moved to a reactor where it is continuously reacted to form reacted precursor particles. It is submitted that Schultz et al. does not disclose or suggest such a method. Specifically, each of the components of Schultz et al. is delivered to the reactor separately, and is not mixed in a precursor composition that includes at least first and second precursor components. In view of the foregoing, removal of this rejection is requested.

Claims 93-120

Claims 93-95 and 97-112 have been rejected under 35 USC § 102(b) as being anticipated by Schultz et al. Claims 96 and 113-120 have been rejected under 35 USC § 103(a) as being unpatentable over Schultz et al.

Claim 93 has been amended to recite that the precursor composition is continuously provided to a reactor where the precursor composition comprises a mixture of at least a first precursor component and a second precursor component. Schultz et al. does not disclose or suggest providing a mixture of at least first and second precursor components to a reactor. Rather, the reactants in Schultz et al. are disposed on the substrate in a step wise fashion. They are not provided to the reactor as a mixture. Therefore, removal of this rejection is requested.

Provisional Double Patenting Rejection

The Examiner has provisionally rejected Claims 1-5, 13-15, 18-21, 24-27, 31, 40-43, 64-67, 75-77, 80-83, 86-89, 93-95, 103-105, 108-111, and 114-117 under the judicially

created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-85 of U.S. Patent Application Serial No. 09/821,848.

The rejection under double patenting is acknowledged, and a Terminal Disclaimer will be filed in this case, if appropriate, as soon as claims in U.S. Patent Application Serial No. 09/821,848 are otherwise held allowable.

The fee for the additional claims (large entity) is calculated below:

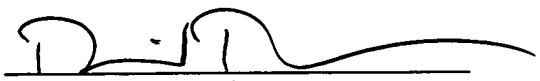
For	Claims Remaining After Amendment	Highest Number Previously Paid For		Extra Claims	Rate		Additional Fee
Total Claims	122	-120	=	2	x $50	=	$100
Independent Claims		-	=		x $	=	$
Multiple Dep. Claim		-	$290			=	$
Total Fee						=	$100

A check in the amount of $100 for the payment of this fee accompanies this response. Please charge any underpayment and credit any overpayment to Deposit Account No. 50-1419.

Applicants believe that all pending claims are in condition for allowance and such disposition is respectfully requested. In the event that a telephone conversation would further prosecute and or expedite allowance, the Examiner is invited to contact the undersigned.

Respectfully submitted,

MARSH FISCHMANN & BREYFOGLE LLP

By: 

David F. Dockery
Registration No. 34,323
3151 South Vaughn Way, Suite 411
Aurora, Colorado 80014
(303) 338-0997

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